

Utility Energy Services Business Models

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Presentation Outline

- Rationale and opportunities for utility energy services
- The energy services value chain
- Overview of the energy services business
- Energy services business models
- Utility business models
- Examples of utility energy services delivery
- Partnerships with private sector
- Steps towards establishing a utility energy services business

Why Utility Energy Services?

- **Technical skills and capabilities to provide energy services**
- **Access to customers**
- **Credibility with customers**
- **Knowledge of relevant technologies**
- **Can utilize a range of business models**
- **Provide quality installation, operation and maintenance**
- **Mobilize private financing**
- **Reduce implementation costs**
- **Improve customer staff skills**



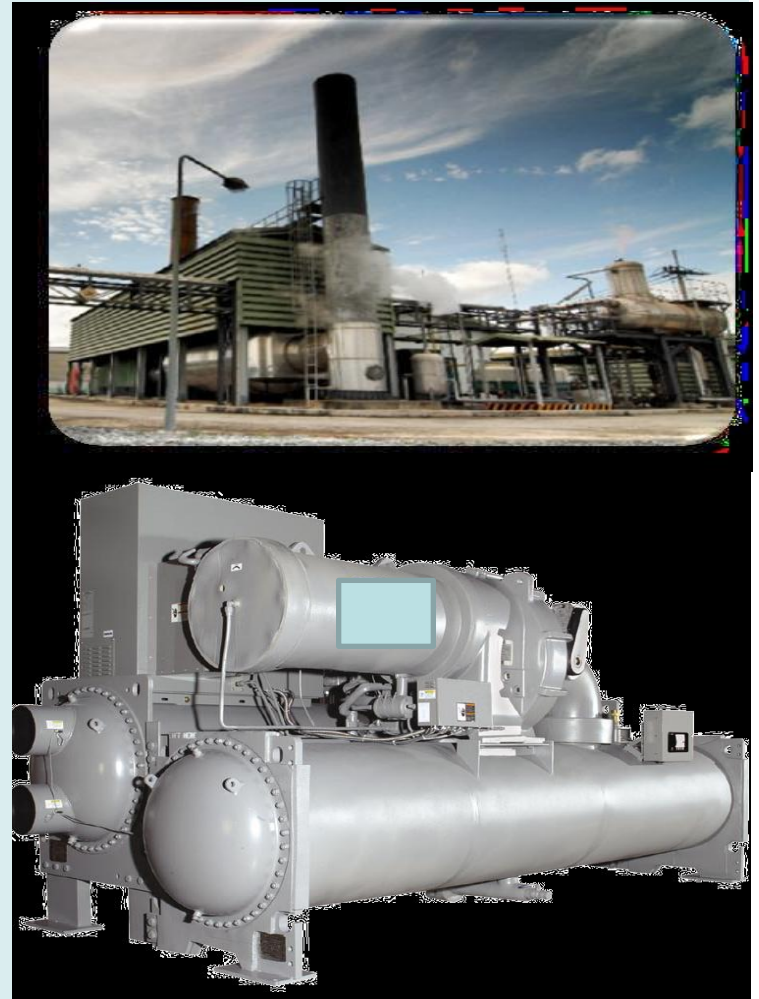
Typical Building Energy Efficiency Technologies

- Energy-efficient lighting
- Lighting controls
- Timers and occupancy sensors
- Efficient heating, ventilation and air-conditioning systems
- Building envelope measures
- Efficient motors, pumps and fans
- Variable speed drives
- Building energy management systems
- Waste heat recovery
- Cogeneration or combined heat and power (CHP)

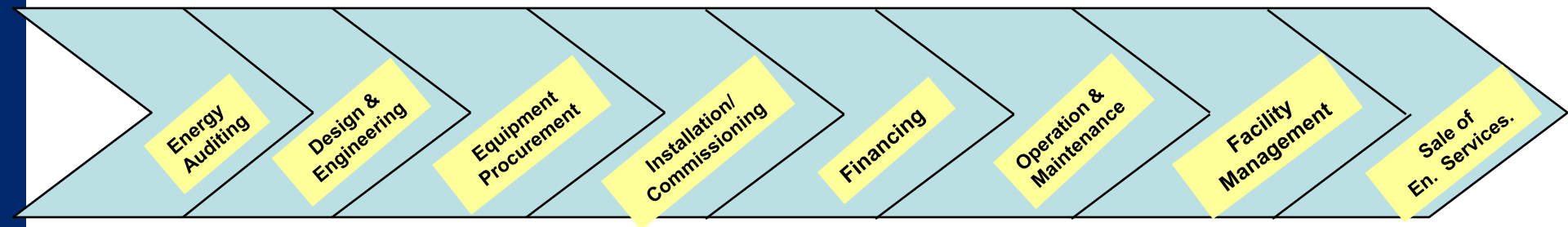


Typical Industrial Energy Efficiency Technologies

- Efficient motors, pumps and fans
- Variable speed drives
- Energy management and control systems
- Waste heat recovery
- Efficient compressed air systems
- Efficient refrigeration systems
- Cogeneration or combined heat and power (CHP)
- Energy-efficient lighting and controls
- Efficient heating, ventilation and air-conditioning systems
- Process optimization

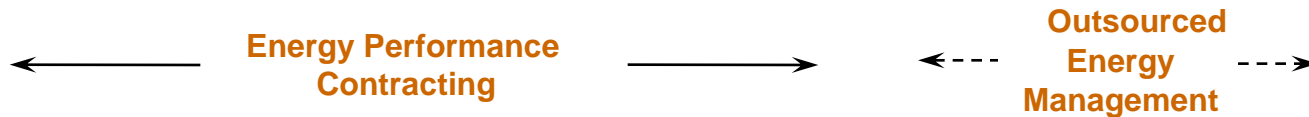
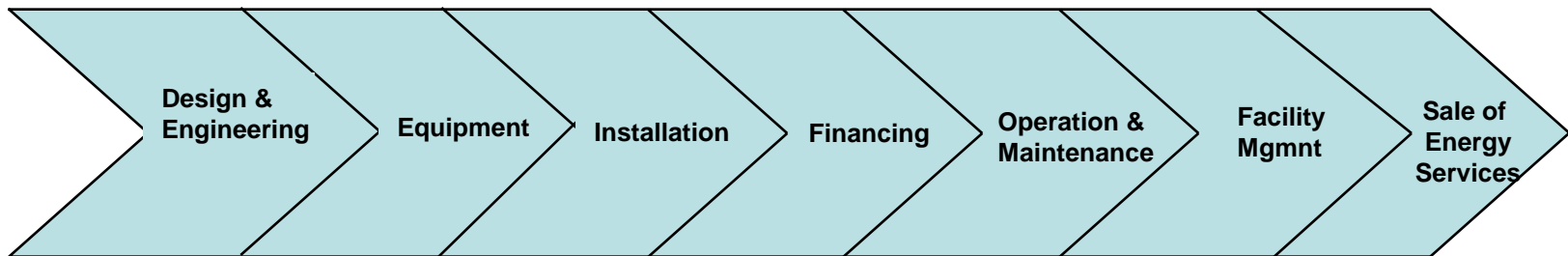
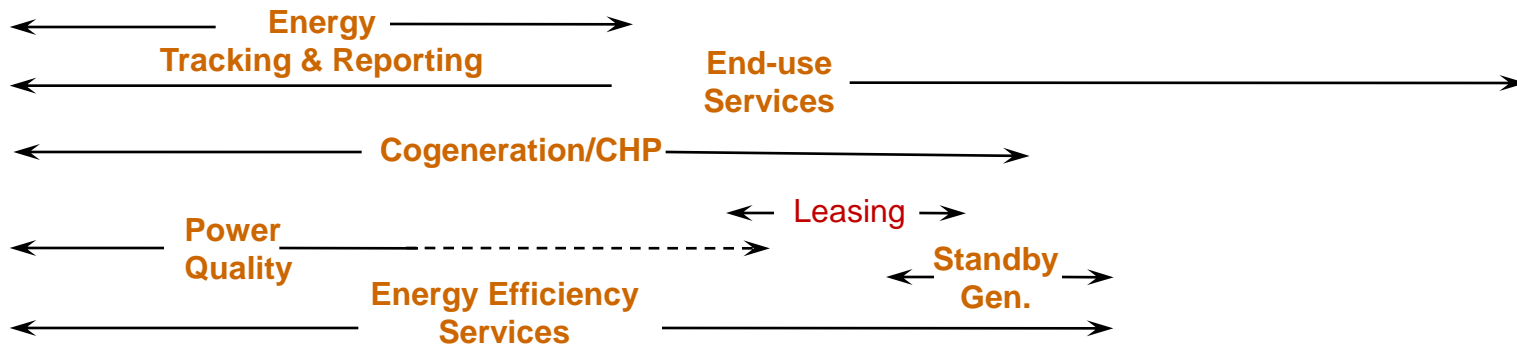


Overview of Energy Services Value Chain

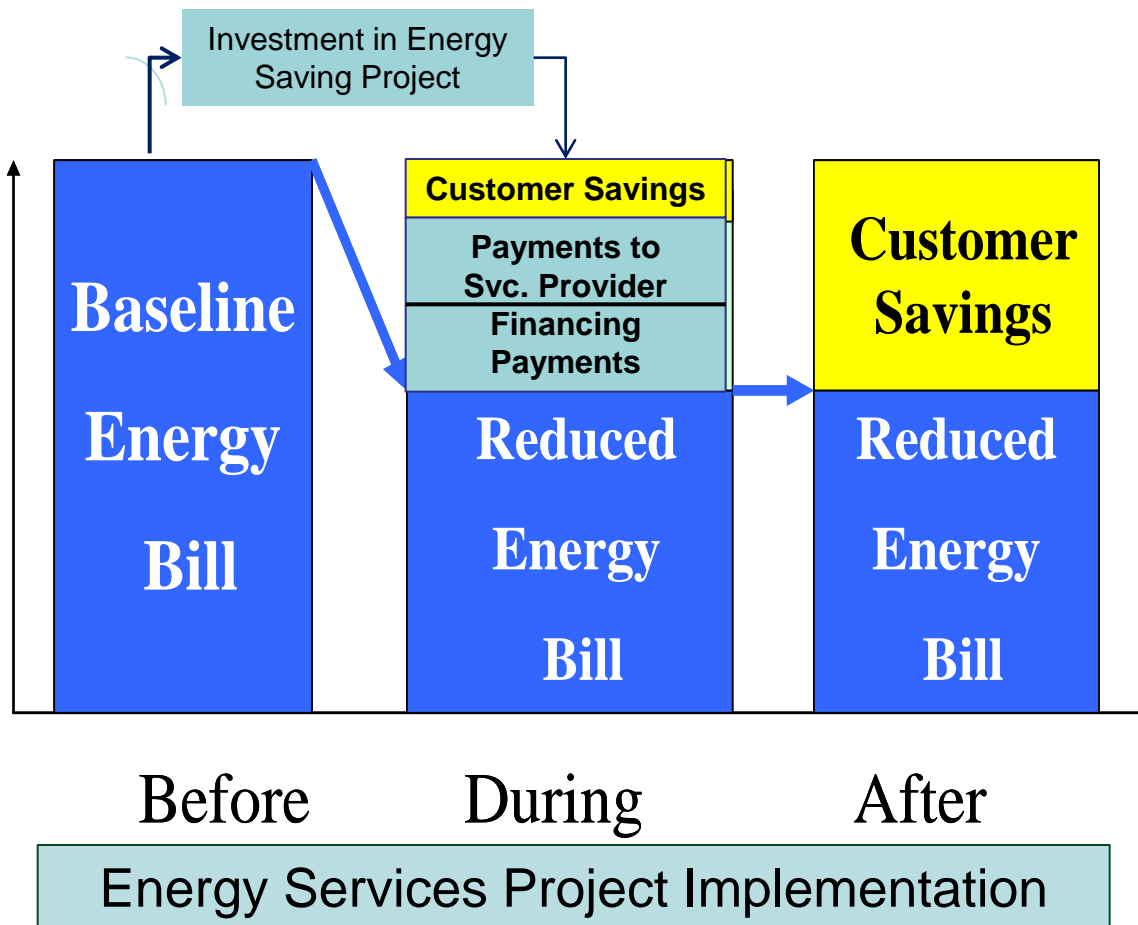


A utility energy services business can provide a wide range of products and services in this value chain

The specific services depend on the capabilities and market needs



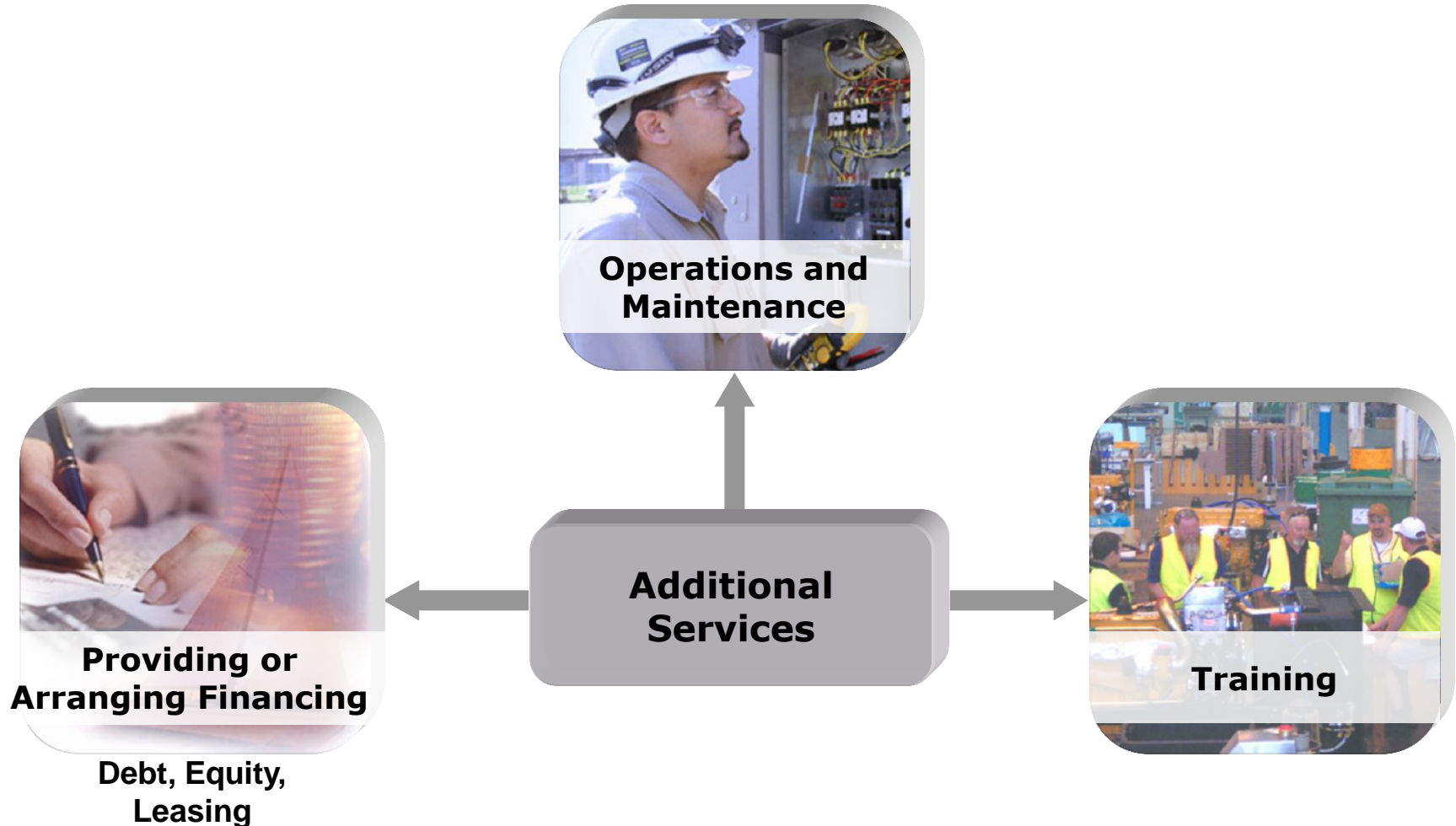
Energy Savings from Energy Efficiency Projects



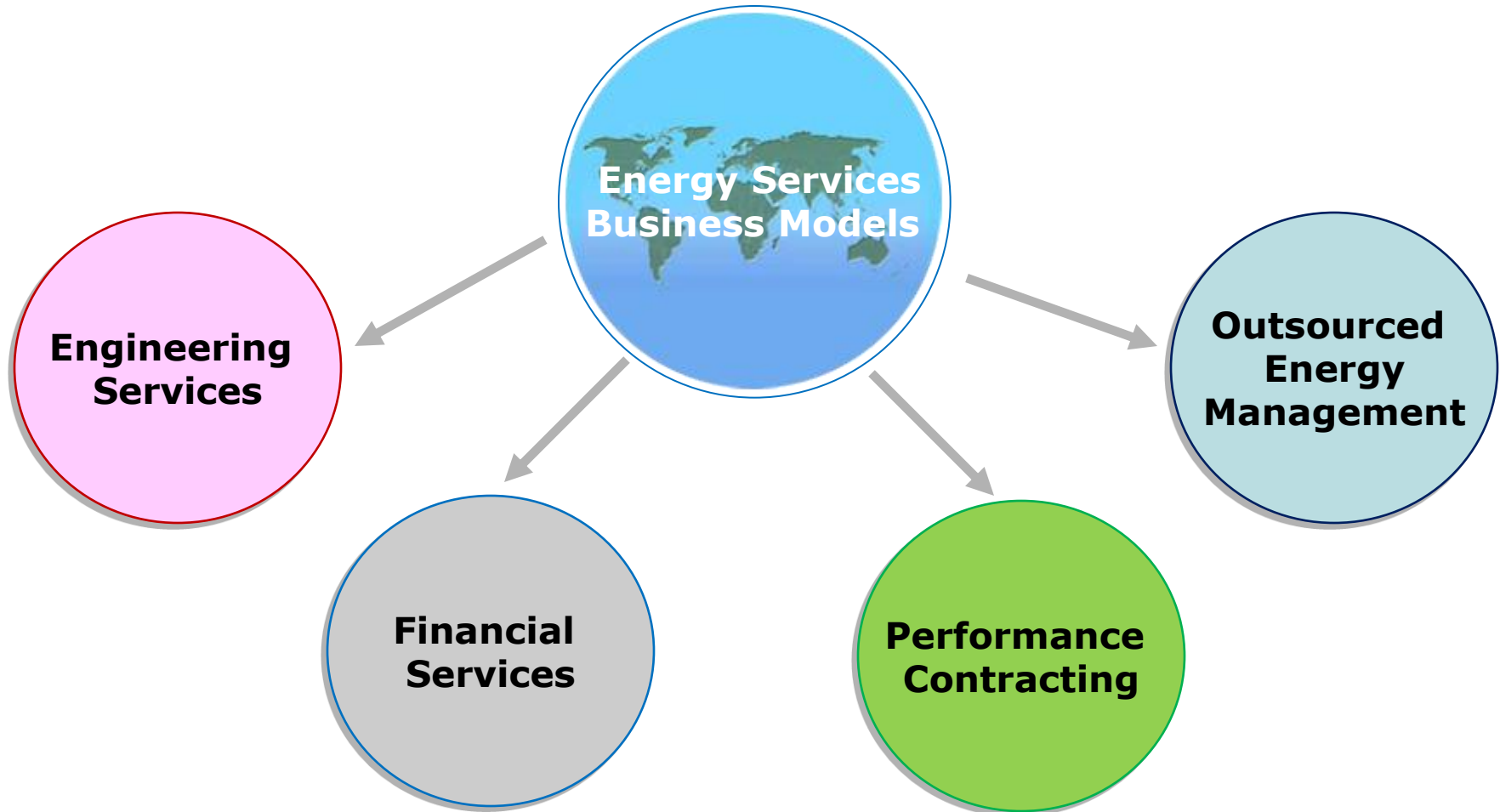
Range of Energy Services



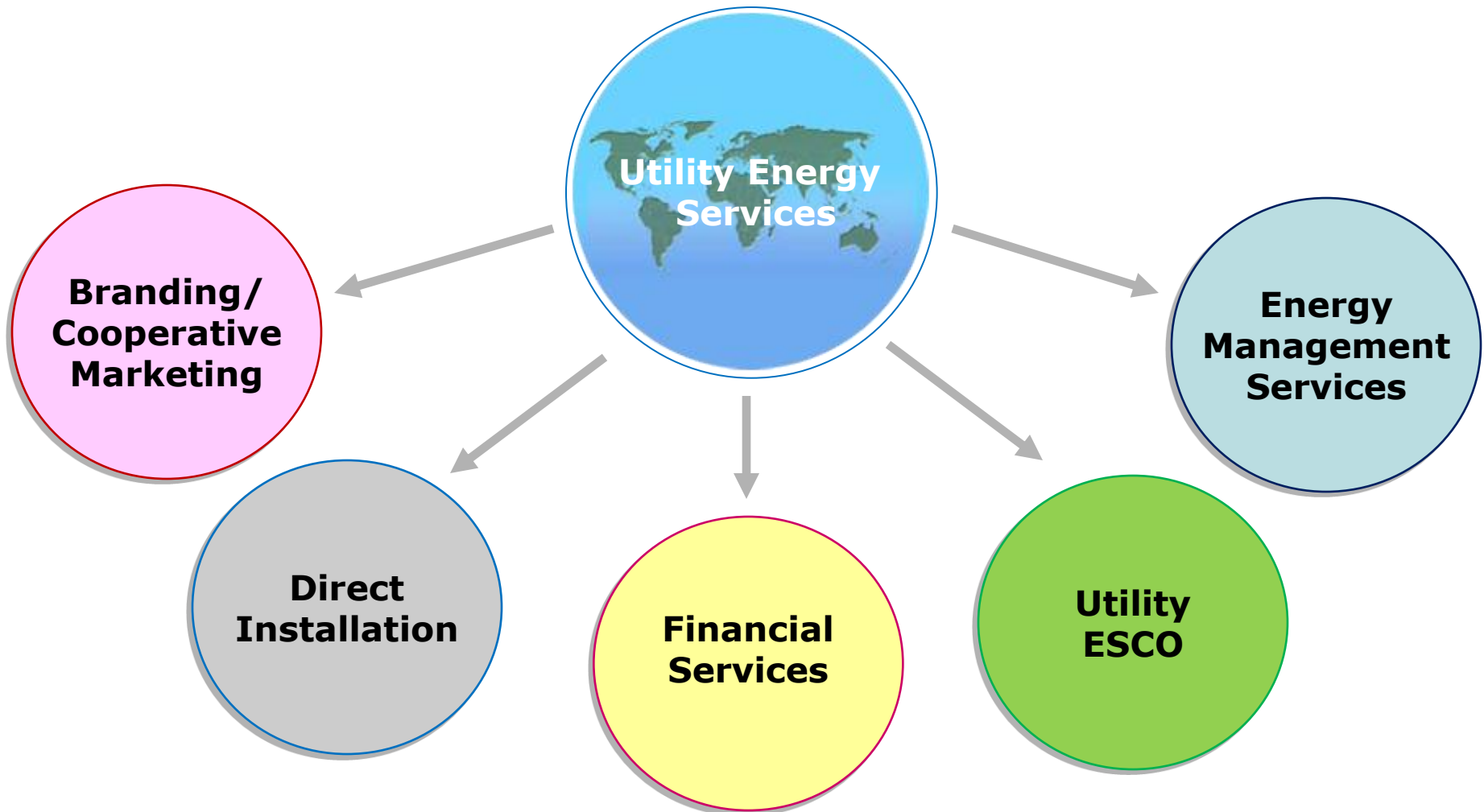
Additional Services



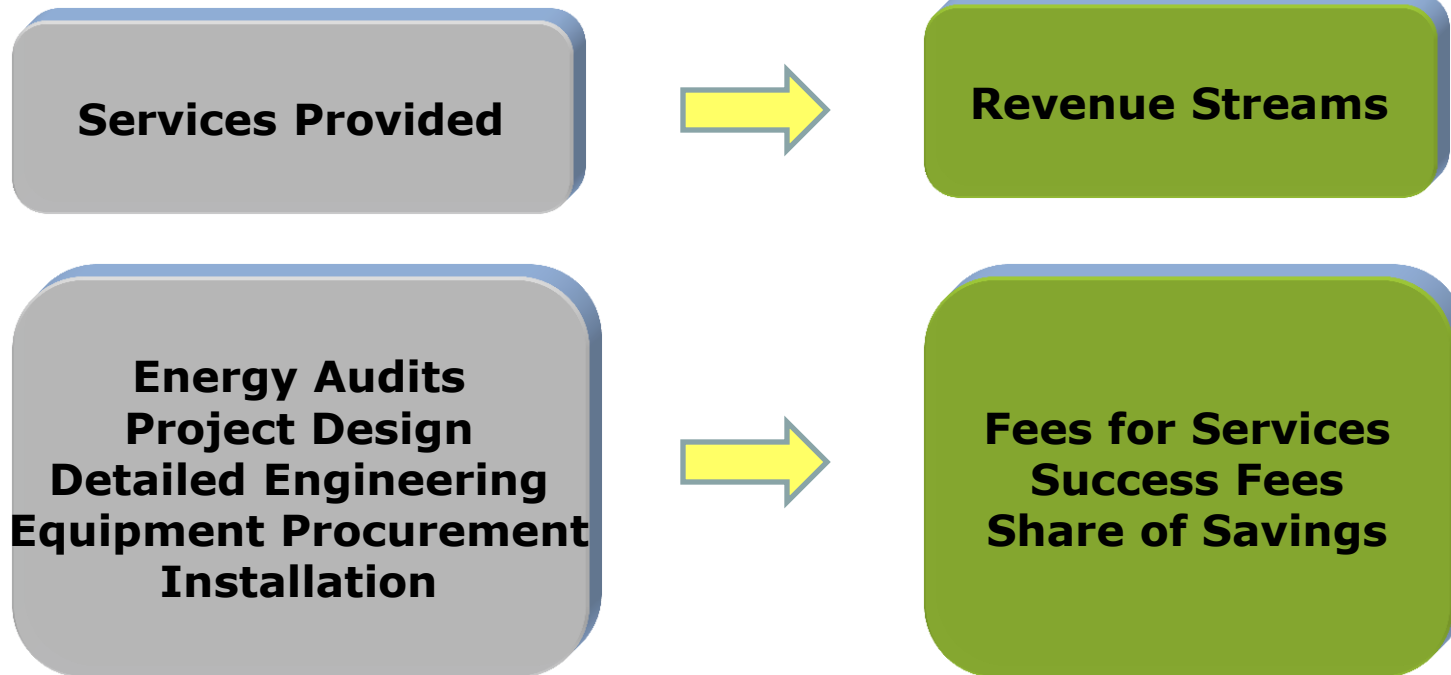
Private Sector Energy Services Business Models



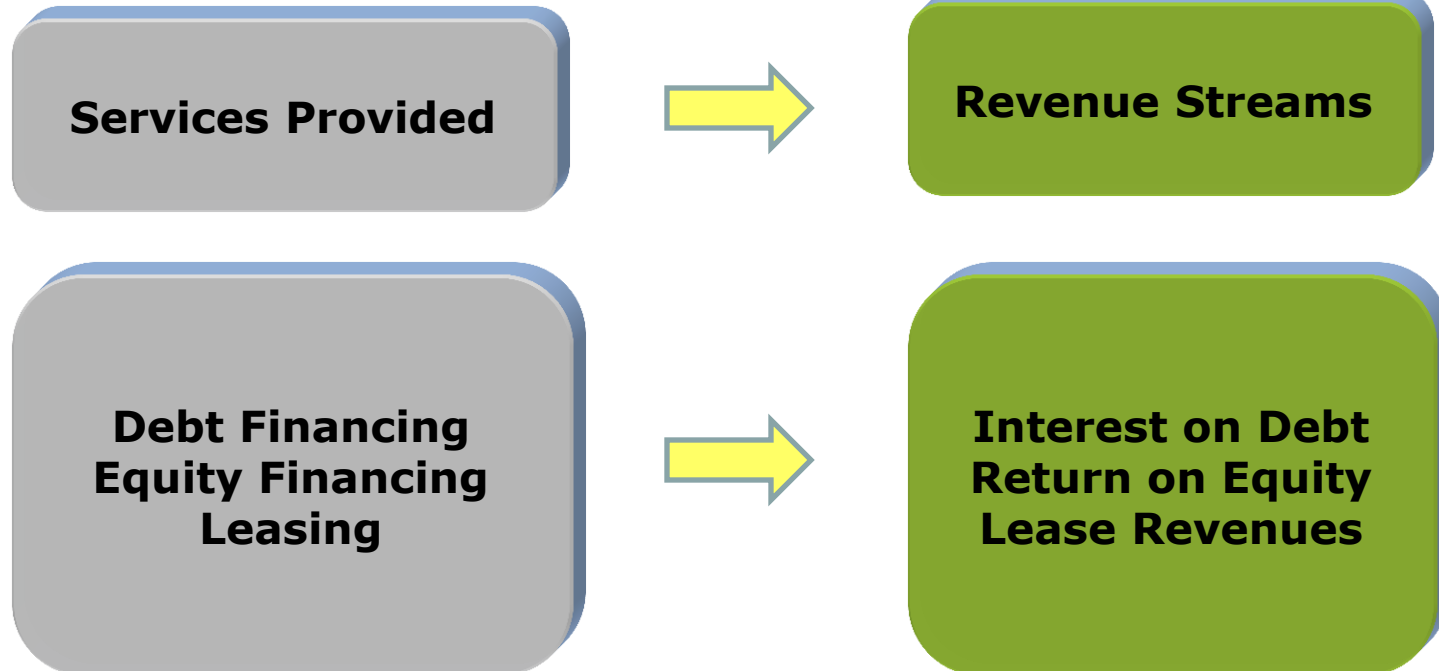
Utility Energy Services



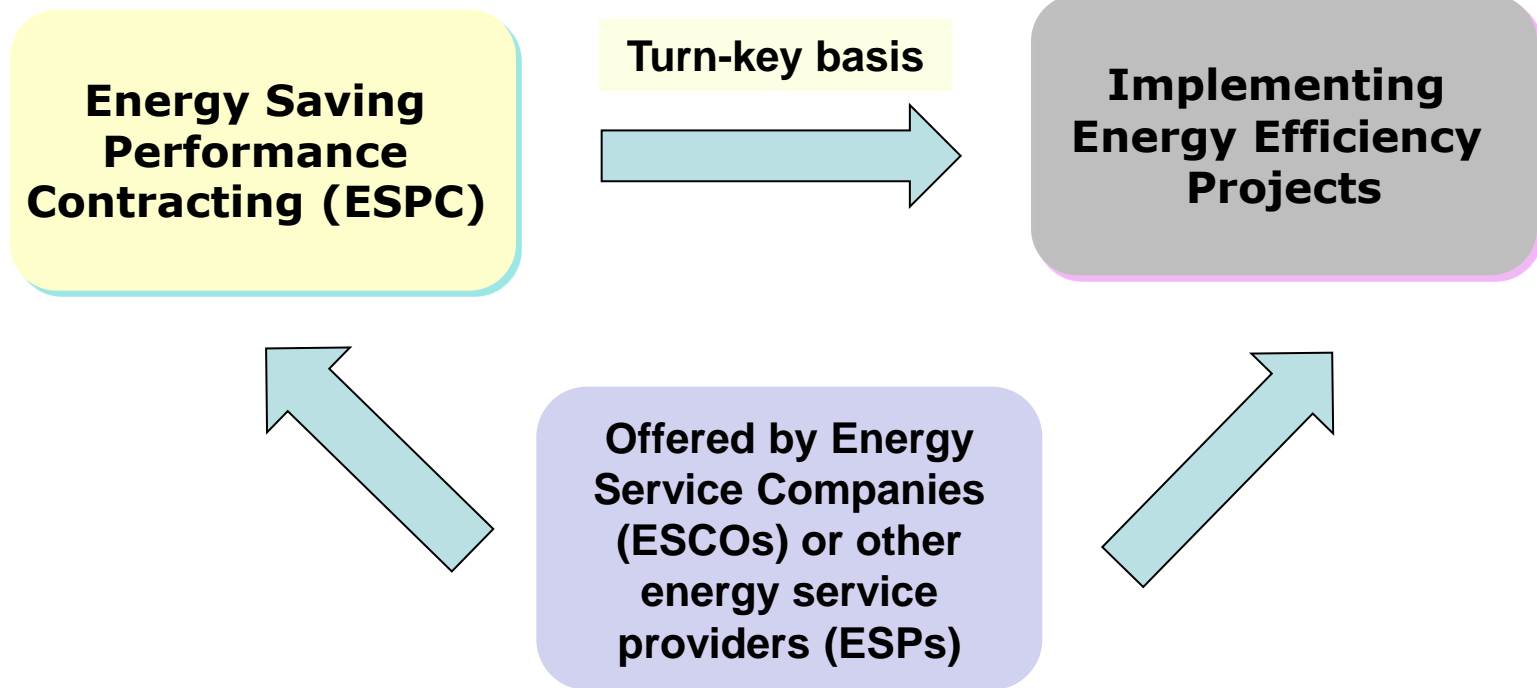
1. Engineering Services Business Model



2. Financial Services Business Model



3. Energy Saving Performance Contracting



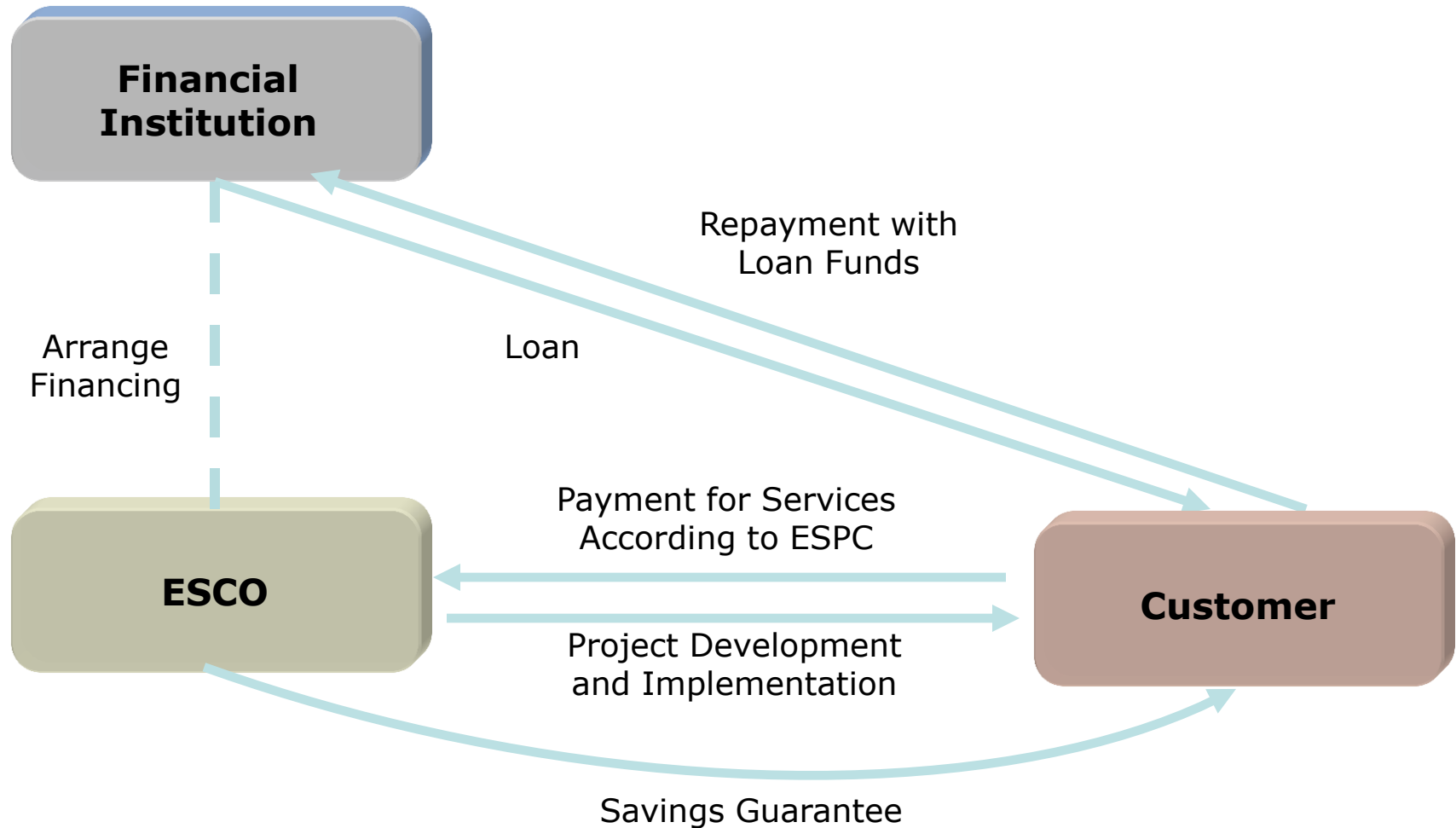
Energy Service Companies (ESCOs):

- **Provide or arrange a complete package of services**
- **Offer business and financing models under which customers effectively pay for the energy services from energy savings achieved**
- **Payments to the ESCO are contingent upon achieving guaranteed performance**
- **Most of the project risks are assumed by the ESCO.**

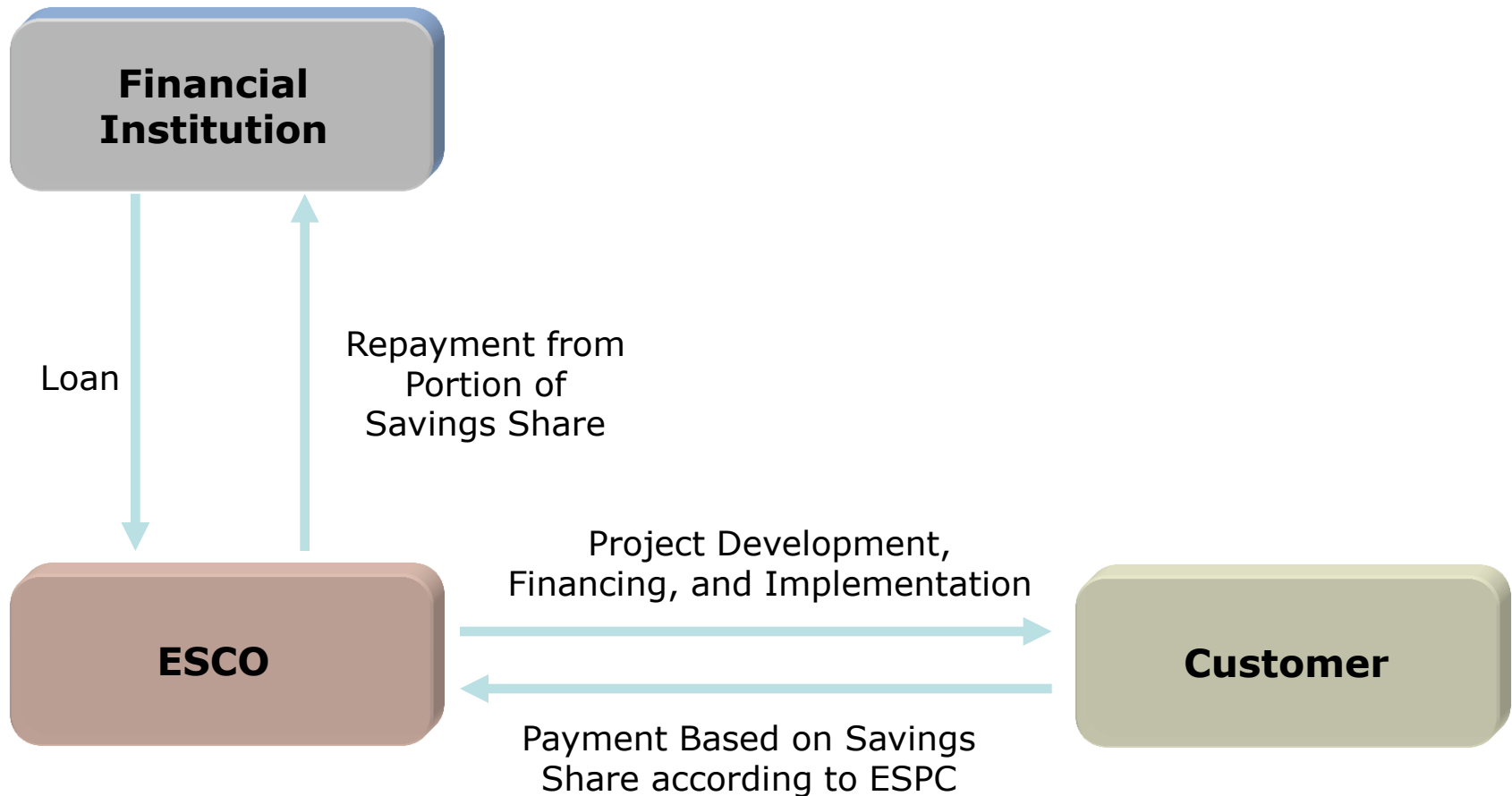
Two basic models for revenues:

- **Shared Savings**
- **Guaranteed Savings**

Guaranteed Savings Model

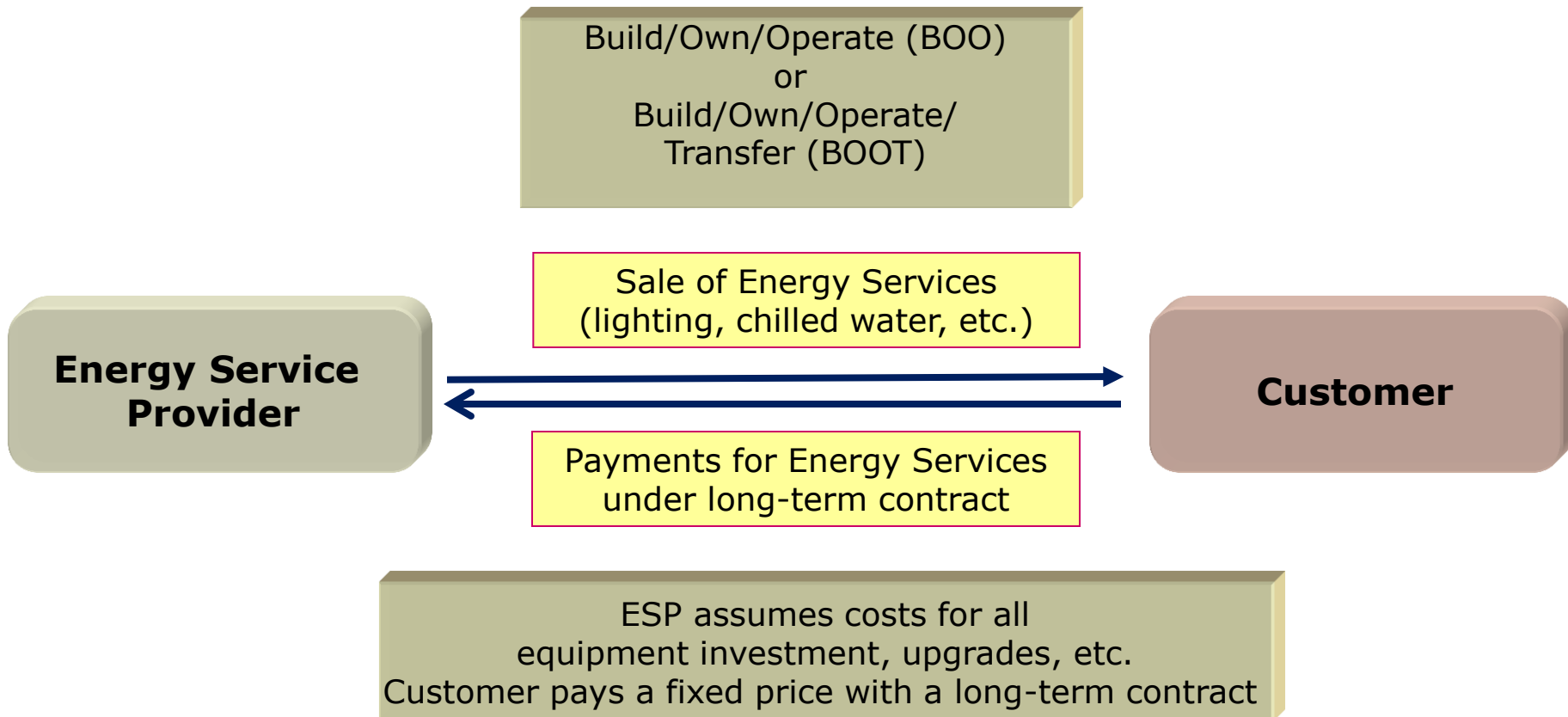


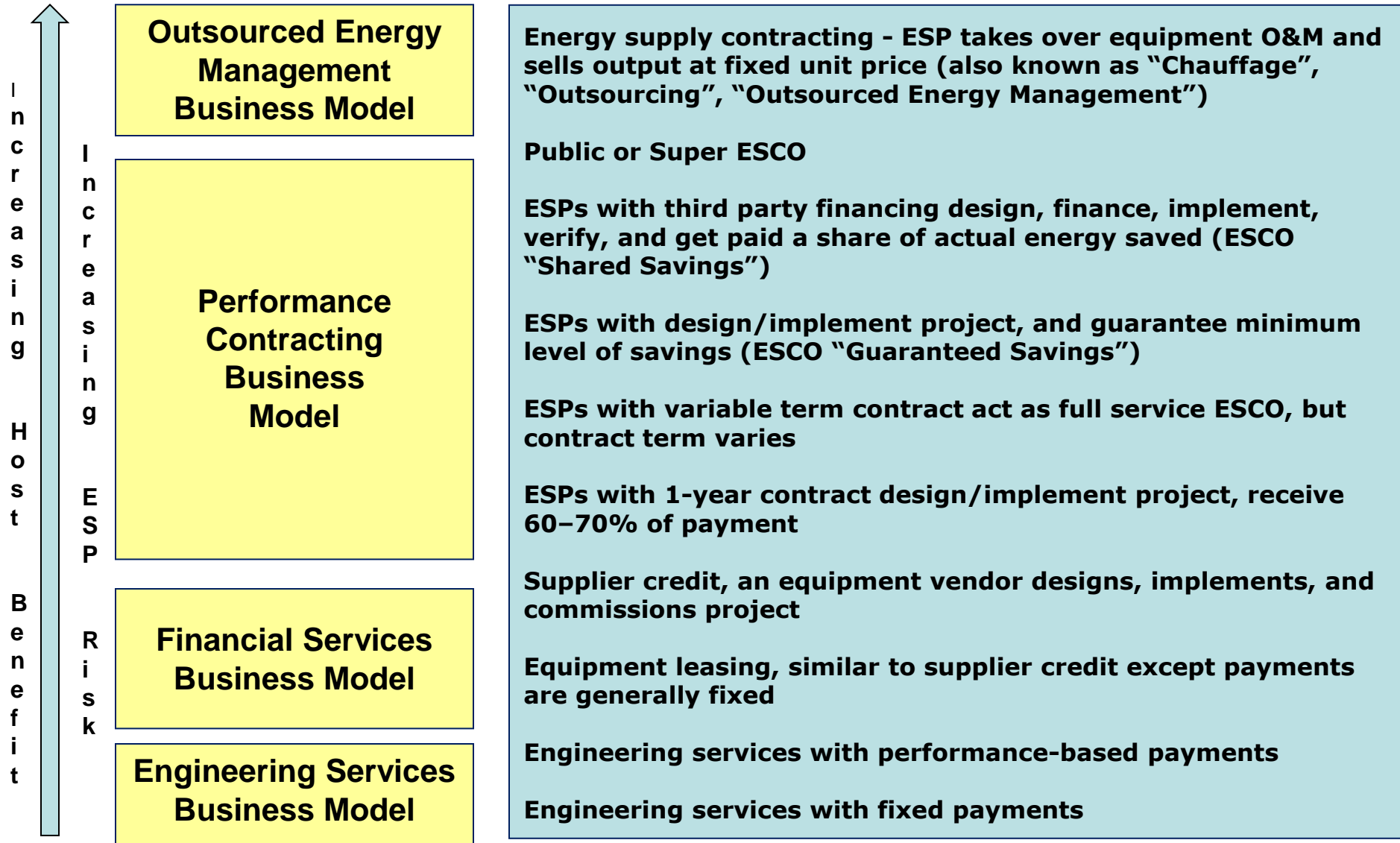
Shared Savings Model



4. Outsourced Energy Management

Service provider takes over management/operation of existing energy equipment or installs and owns new equipment. Signs long-term contract to sell energy services to customer.







Utility Business Models

MODEL	OVERVIEW	REVENUE STREAM
Branding/ Cooperative Marketing	Collaborate with equipment manufacturers, suppliers, dealers, and/or retailers to co-brand, promote and sell efficient equipment	Percent of sales
Direct Installation	Purchase and install energy efficient equipment in customer facilities using staff or contractors	Customer payments through billing mechanism
Financial Services	Provide debt, equity or lease financing for EE projects using own capital or in partnership with banks	Interest payments; return on equity; lease payments
Utility ESCO	Establish non-regulated subsidiary to offer performance contracting services to customers	Shared savings or guaranteed savings payments
Energy Management Services	Provide energy management services for customer electricity equipment using BOO or BOOT model	Payments for services under long-term contract

Utility Energy Service Businesses

- Many utilities believe energy services represent a logical extension of their basic business
- Drivers for utility energy services
 - Improve relationship with customers and community
 - Retain customers in competitive markets
 - Meet regulatory obligations
 - Improve asset utilization; reduce capital needs
 - Reduce losses in subsidized markets
 - Increase revenues and profits
 - Meet Corporate sustainability goals
 - Reduce environmental impacts
- Option to establish separate unregulated business

Examples of Utility Energy Services

U.S.A.

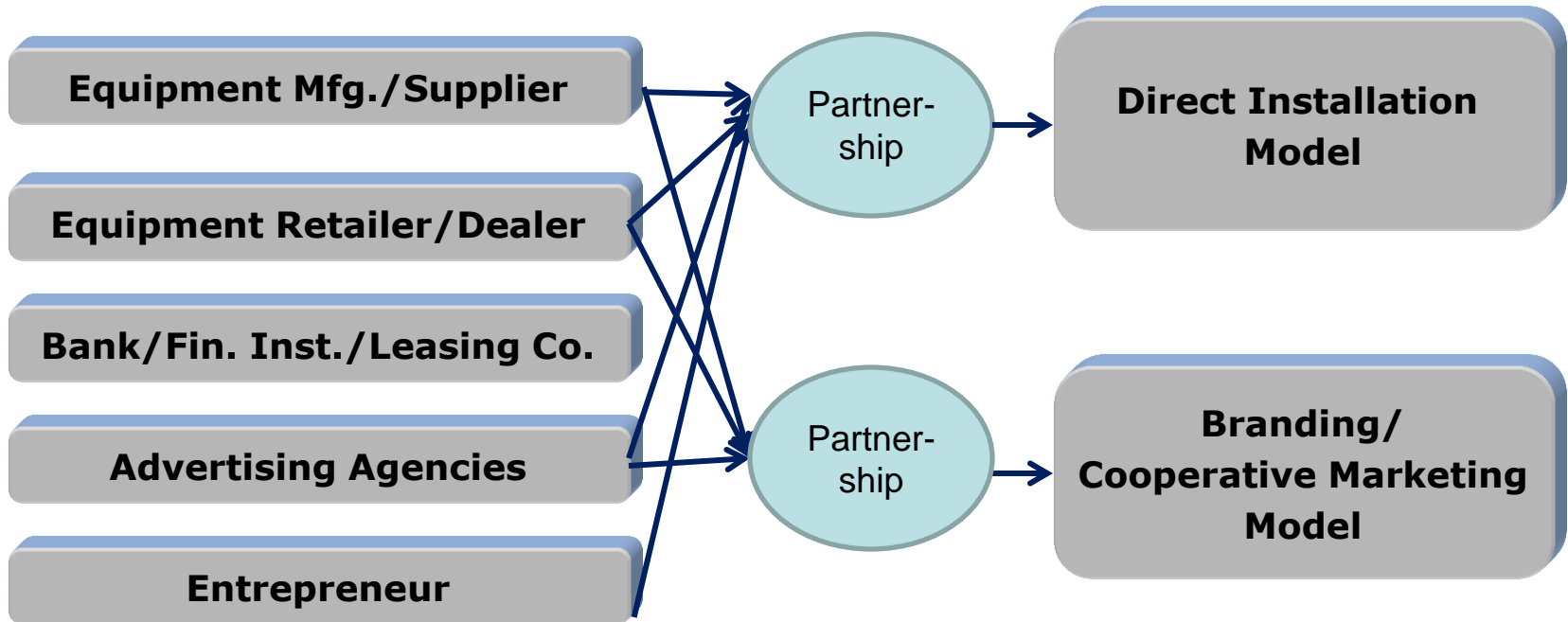
- Energy Systems Group
- PEPCO Energy Services
- Con Edison Solutions
- Constellation Energy

U.S. utilities have also partnered with the Federal Energy management Program to provide energy services to government buildings and facilities

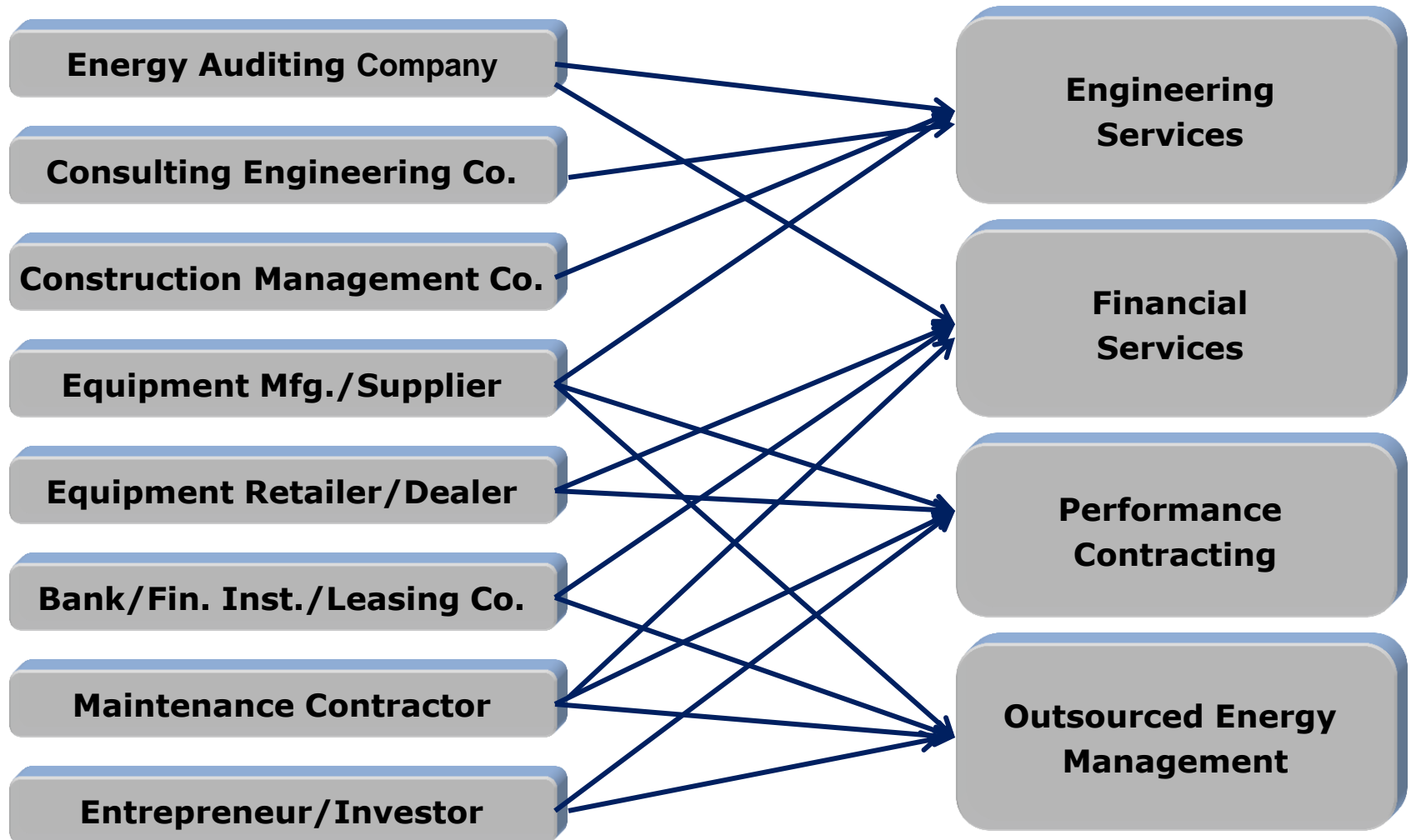
- Hong Kong – China Light & Power
- Denmark - SE Big Blue
- Brazil – Efficientia
- Italy – HERA SpA
- Portugal - Energias de Portugal
- Spain – Endesa
- Sweden – Kalmar Energi

(See: International Energy Agency, Energy Provider-Delivered Energy Efficiency)

Utility Partnerships with Private Sector - 1



Utility Partnerships with Private Sector - 2



Utilities Can Address a Number of Barriers to EE

Public Sector Customers

- Develop standard contracts
- Provide best technical solutions
- Provide or arrange financing from commercial banks/FIs
- Provide project management services
- Enter into public-private partnerships
- Provide training to facility engineers/managers

Private Sector Customers

- Provide project installation, commissioning and M&V
- Develop capacity of facility energy managers
- Develop case studies and demonstration projects
- Facilitate financing of EE projects
- Build capacity of banks/FIs
- Develop M&V protocols & build M&V capacity

Barriers to Private Sector Energy Services

- Small size of service providers, limited capacity
- Challenges in working with Public Sector
- Poor credibility with private sector
- Small equity, weak balance sheets
- Limited staff capacity
- Challenges in working with banks and FIs
- High project development costs
- Lack of supportive legislative and regulatory environment
- Lack of demonstrated experience



Utility Actions to Promote Private Sector Energy Services

- Formation of an Energy Service Providers Association
- Promoting legislative and regulatory changes
- Building technical and implementation capacity
- Standardizing contracts and agreements
- Building relationships with banks and financial institutions
- Increasing customer awareness of benefits of EE services
- Leading by example



Steps Toward Establishing an Energy Services Business

1. Identify business opportunity
2. Assess company strengths, weaknesses, opportunities and threats
3. Identify critical success factors
4. Identify key barriers and define measures to overcome them
5. Develop business plan
 - Define goals and objectives
 - Define target market
 - Specify products and services
 - Develop marketing and sales strategy
 - Establish organizational structure
6. Obtain management approval



Developing a Business Plan

Why Needed

- Guiding document for business
- Needed for investor and/or corporate approval
- Needed for raising initial equity funding
- Useful for raising debt financing for business or projects
- Must be clear, concise, specific, and goal-oriented
- Must provide a useful understanding of the business:
 - *business purpose*
 - *products/services*
 - *marketing and sales strategy*
 - *operational plan*
 - *capital needs*
 - *financial returns*

Typical Outline.

Executive Summary

Market Assessment

Company Description

Marketing and Sales Plan

Partnerships

Products and Services

Operations

Organization and Management

Funds Required and Their Uses

Financial Data

Appendices and Exhibits

THANK YOU

***HAPPY HOLIDAYS AND A VERY HAPPY, HEALTHY
AND PROSPEROUS NEW YEAR TO ALL***

Questions?